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RECREATION

OPPORTUNITIES AND PROBLEMS IN THE NATIONAL FORESTS OF THE NORTHERN AND INTERMOUNTAIN REGIONS

Intermountain Forest and Range Experiment Station
Forest Service
U. S. Department of Agriculture
Ogden, Utah
Reed W. Bailey, Director

COVER PHOTO: Redfish Lake, Sawtooth National
Forest

This photo illustrates one of the problems of outdoor recreation. Most people camping or picnicking on lakes like to be as close to the water as possible. However, when too many flock to the water's edge, the beauty and serenity they all came to enjoy tend to be lost in the crowd. For this reason, to protect people from themselves, Forest Service policy is to keep picnicking and camping spots well back from shorelines.

Photo by Stewart Ross Tocher

RECREATION OPPORTUNITIES AND PROBLEMS
IN THE NATIONAL FORESTS
of the
NORTHERN AND INTERMOUNTAIN REGIONS
as they relate to the development of a research program

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PREFACE

The following analysis is the first step in an expanded program of outdoor recreation research at the Intermountain Forest and Range Experiment Station. Its purpose is to describe the recreation situation and opportunity on the national forests within this experiment station's territory and to identify the principal problems related to recreation use—all for the purpose, of course, of pointing the way to more effective research. Many people in the Forest Service for a long time have been living with the problems of managing and developing the recreational assets of the national forests. The following discussion draws heavily from their experience and vision. Particular thanks are due D. B. Partridge, a veteran in the outdoor recreation field, who has counseled the author throughout the preparation of this report.

NATIONAL FOREST AND GRASSLAND AREAS
IN THE NORTHERN AND INTERMOUNTAIN REGIONS

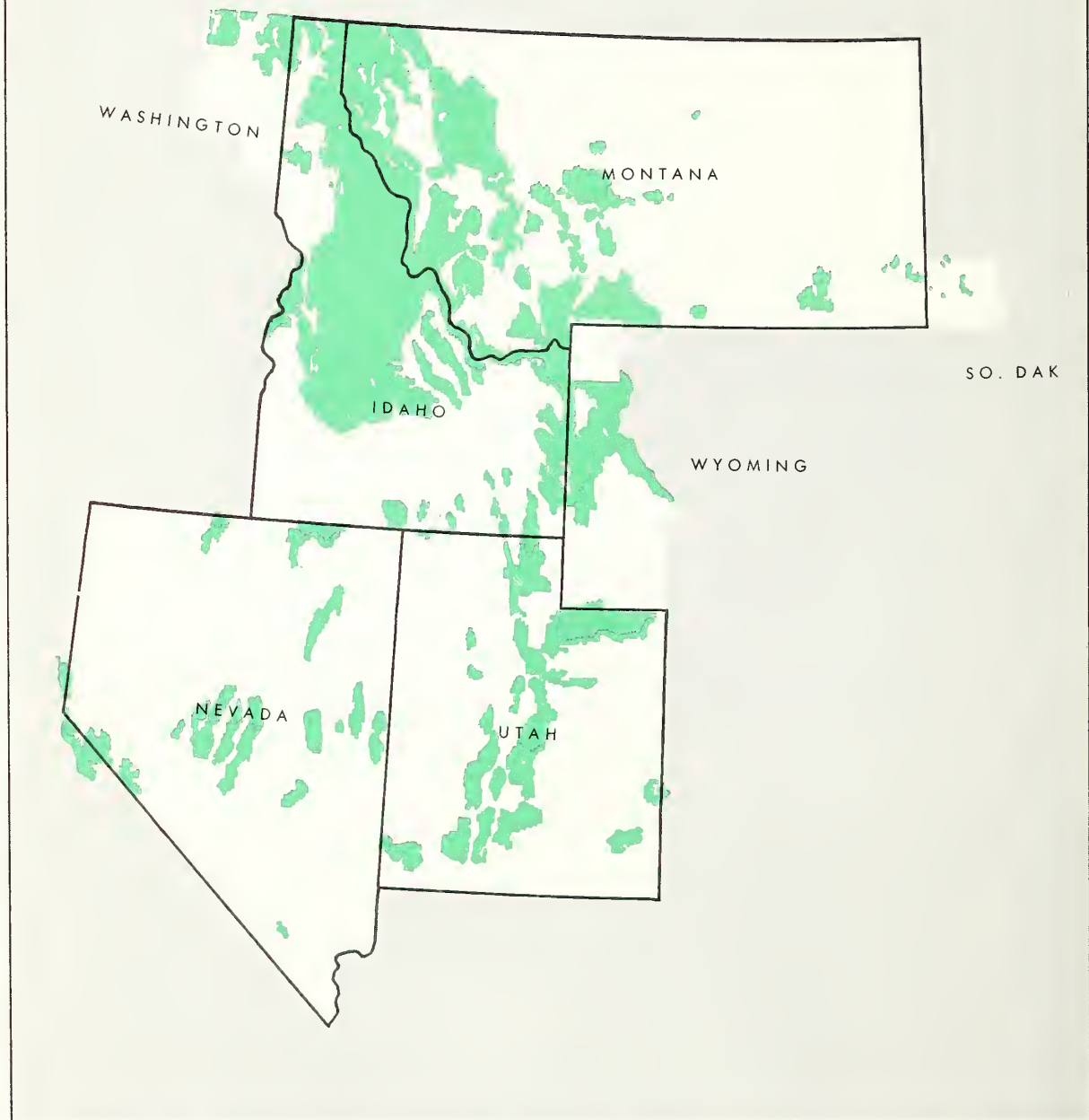


Figure 1.

RECREATION ON THE NATIONAL FORESTS HAS GROWN UP AND HAS GROWN-UP PROBLEMS

People are becoming increasingly aware of recreation opportunities in the national forests of the Northern and Intermountain Regions¹ (fig. 1). This includes not only the general public, but Congress and national forest administrators as well. Not so long ago recreation was a minor partner in multiple-use management of the national forests. Today, however, it is beginning to receive its full share of emphasis in management decisions.

The new emphasis is not because national forest recreation is itself new. Actually, these public lands were something of a playground long before the first white men came, and we have written evidence that at least some of the early settlers took time out from the business of survival to relax on lands that are now national forests. More than a century ago, for example, Utah pioneers drove their wagons up into the mountains to escape the oppressive summer heat of the lower valleys in which they lived.

The increasing attention being directed to national forest recreation stems from the rising popularity of these forests as playgrounds. The more mobile, numerous, and affluent postwar society has turned to the national forests for leisure-time activity in constantly greater numbers. The interest of professional land managers in recreation is stimulated by the fact that the runaway expansion of recreation activity is creating serious problems in the development and management of the resource.

RECREATION VISITS TO THE NATIONAL FORESTS AND GRASSLANDS OF THE NORTHERN AND INTER- MOUNTAIN REGIONS

	Visits
1940	3,180,000
1959	20,329,000
1976	60,000,000
2000	160,000,000

Until very recently recreation development in the 34 national forests and 4 national grasslands of Regions 1 and 4 was low pressure, to say the least. There is no reason it should have been otherwise for in the past recreation use was not great. In 1940, for example, there were about 3 million visits to these areas for recreation purposes. Overall, at least, this was light use.

It all started with people just using the national forests. If they wanted to camp, they found an attractive spot and camped. If they were interested in fishing or hunting, they simply sought out the most likely locations and did so. This completely casual approach to recreation became less possible as the traffic increased. With mounting use, local concentrations developed and administrative actions were required. The big push to provide facilities for public recreation began during the 1930's with the Civilian Conservation Corps and has continued since then as finances have permitted. As more and more people took up skiing, ski slopes were developed to serve the crowds. As individual camping and picnicking areas became popular, tables, fireplaces, toilets, and other facilities

¹The Intermountain Region includes Utah, Nevada, Idaho south of the Salmon River; and Wyoming west of the Continental Divide. The Northern Region includes Montana, Idaho north of the Salmon River, and northeastern Washington.

Within these Regions are 34 national forests and 4 national grasslands. Except in those few instances, where statistics are presented, the term "national forests" as used in this report includes both the forests and grasslands.



Figure 2. — Seeley Lake, Lolo National Forest, Montana. This scene repeated on lake after lake typifies the great new interest of the American people in the out-of-doors.

ties were installed to serve the public and to concentrate use so as to reduce problems of sanitation, safety, and fire. Mushrooming boat ownership has recently required construction of parking facilities and launching ramps (fig. 2).

One difficulty with this situation has been that because of limited financing the Forest Service has been, in the main, trying to catch up with use; whereas national forest administrators would have preferred to move out in front with planning and development. Nevertheless, the growing demands of recreationists appear to have been met fairly well and the history of recreation expansion on these national forests has, by and large, been a happy one. Thousands of people have been given the opportunity for relatively unregimented enjoyment of the out-of-doors. They have had the chance to wander where they would and enjoy what they wished. Only in recent years has the shoe really begun to pinch. Recognizing this, Congress has appropriated money for rehabilitation and expansion of national forest recreation facilities since fiscal year 1958. These two regions received \$5 million for this purpose in the 2-year period, July 1, 1960 to June 30, 1962. The project has been called "Operation Outdoors."

Although much of the Operation Outdoors' money has been used in replacing worn facilities, this is only the more superficial aspect of the wear problem. More important is what has been and is happening to the environment in which these facilities are located. Anyone who has been around for long can see that the Seeley Lake Campground on the Lolo National Forest, the picnic areas along the Wasatch Front in Utah, and many others have lost much of their luster because of the heavy impact of human use. They are somewhat "shopworn" imitations of the beautiful spots they once were.

Serious though this situation is, it is overshadowed by a more pressing problem. The phenomenal growth of recreation makes it increasingly urgent to define the place of the national forests in the total recreation picture and to describe the kind of development necessary if these forests are to fill that place. Until we have done these things it will not be possible to develop the acute sense of value necessary to weigh recreation in relation to other uses of the national forests. How, for example, can we compare the relative values of a lovely meadow and the additional irrigation water made possible by converting the meadow alternately into a reservoir and a mudflat?

With some oversimplification the recreation situation can be summed up with the observation that the rapidly increasing demand for recreation—plus the rising demand for the other products of the forest as well—sets up a management task we are not yet entirely prepared to meet. As far as recreation itself is concerned, we face an array of questions that may, for convenience, be grouped into three overall problems:

- Finding the place of these national forests in the total scheme of American recreation.
- Finding the place of recreation on these national forests.
- Developing management measures adequate to prevent deterioration of recreation focal points.

Studies of the Outdoor Recreation Resources Review Commission and the Forest Service's own National Forest Recreation Survey are directed toward these problems. The discussion in the following pages, likewise, is focused on them.

DEVELOPING MANAGEMENT MEASURES ADEQUATE TO PREVENT DETERIORATION OF RECREATION FOCAL POINTS

What the vacationist seeks in national forests depends upon the time of year and his own interests. Yet, from the way people flock to the prettiest lakes, the most attractive scenery, and the shadiest glens, we may conclude that the principal attraction of national forests is an unspoiled natural setting with a strong emphasis on quality. It is somewhat ironic, therefore, that one of the main problems associated with outdoor recreation is the protection of such areas from their admirers.

This problem has many faces. It requires, for example, that twice a week someone fish out the beer cans, bottles, and papers from Big Springs on the Targhee National Forest. They have been tossed there by that small fraction of tourists that rangers wryly call "the slobs." It involves a never ending battle to keep power lines out of sight of scenic drives, to prevent the despoilation of streams by roadbuilding and other activities, to dispose of an increasing pile of garbage, and so on. So far as recreation use itself is concerned, the most serious and widespread deterioration of the native environment is occurring in places where people congregate.

There is a tendency to heap much blame on the dirty camper and the little vandal with the hatchet. Although these not-so-attractive Americans deserve all the criticism they get, they are in a sense red herrings diverting attention from the more serious site deterioration to which all users unintentionally contribute.

Excessive concentrations of people can impair both the physical and aesthetic qualities of any recreation site. Trampled vegetation and exposed tree roots are obvious examples of the physical site deterioration that results from pounding by too many human feet. In such areas the abused vegetation constitutes both site deterioration and reduced natural beauty.

A more subtle form of aesthetic downgrading happens when there are too many people in an area, even though there might be no physical damage. A lake may be loaded with natural appeal when 10 people are on its shores. It may still retain most of that appeal with 50 or even 250 people. But, at some point sheer numbers alone can transform the recreational opportunity. No longer is that lake a place where, as Whistler put it, "nature sings her exquisite song." Instead it has become just another body of water chiefly valuable for swimming and boating.

Swimming and boating are important vacation activities. However, a big part of the national forest recreation opportunity is an aesthetic intangible that should be safeguarded insofar as possible in the development program.

Campers and picnickers are a deteriorating force to be reckoned with

There are hundreds of camp and picnic areas on public lands in these two regions. Yet, only a handful of those that have been patronized to any extent are holding up well under use. The rest show signs of environmental deterioration. In some cases the damage, thus far, has been minor and evident only to the experienced eye. Elsewhere it has been severe.

The picnic areas in the Wasatch National Forest adjacent to Salt Lake City, Utah, are examples of abuse and deterioration at their worst. These areas have been literally overwhelmed with people and show all the signs of wear to be found in the more heavily patronized parks. Human feet have trampled and destroyed vegetation from the stream edge up the mountainside. Roots have been exposed. Topsoil is gone. In the Storm Mountain Picnic Area, for example, thousands of yards of soil have washed away because the protective vegetation is gone.

Badly deteriorated picnic and camp sites are not confined to Salt Lake City's backyard. Mirror Lake Campground, also on the Wasatch National Forest, Mackinaw Campground on the Fishlake National Forest, Redfish Point Campground on the Sawtooth National Forest, and Bison Creek Camp on the Deerlodge National Forest, are a few others in a state of advanced deterioration. As distressing a story as any is what has happened at Holland Lake Campground on the Flathead National Forest. This is one of the prettiest spots in the West, a place with magnetic qualities for recreationists. Heavy use has greatly deteriorated the camping area. The campground is currently being reorganized and expanded as part of Operation Outdoors. However, unless additional measures are taken, the expansion will only provide the opportunity for more wear and the old story of deterioration will be repeated (figs. 3 and 4).

It would be wrong to assume that all camp and picnic sites on national forests are so worn that they have lost much of their natural beauty. There are many attractive picnic and camping places in these regions. Nevertheless, all show signs of wear, and the worst situations today are a preview of a problem that will become more common unless aggressive steps are taken.

Aside from the decline in attractiveness, excessive wear at concentration points manifests itself in several ways; reduction of shade due to loss of trees, reduction of screening as shrub cover wears out, denudation of the ground, and an increase in dust and dirt. These conditions all lead to an eventual reduction of enjoyment. There is a tendency to attribute the trend toward camping trailers to the fact that the American people demand all the comforts of home when camping. This is probably an oversimplification. The trend has certainly been accelerated by the fact that there are fewer and fewer places the average person can find to set up a tent that are not dusty and dirty. Brand new picnic tables are small comfort if every passing car throws up a cloud of dust or if the youngsters come to the table grimy from the dirt underfoot. Yet this is a common fault of many camp and picnic spots. Even new developments such as Calamity Campground on the Palisades Reservoir are literally bathed in dust during dry weather.

* * *

Camp and picnic grounds in these two regions appear to be more fragile than those in some other parts of the United States. At any rate, site fragility can hardly be overemphasized. In most of this mountain country the growing season is short. Moreover, except for a few subirrigated streamside areas the moisture available in midsummer is generally scanty. The pinyon-juniper and drier ponderosa pine sites are better described as arid. Troubles generate from the fact that in their native condition, forest camps in these regions have a relatively low people-carrying capacity—a capacity frequently exceeded. In fact, some of the more popular spots are being subjected to visitor loads that would wreck a well-watered lawn.

There has been some tendency to accept this situation on the grounds that deteriorated forest camps are the inevitable price of outdoor recreation. However, such a resigned attitude doesn't appear either acceptable or necessary. In the first place, few persons are yet ready to admit population growth requires that the general public must be content with substandard camping and picnicking conditions. It is also a mistake to assume that continued heavy use of badly deteriorated areas signifies that the American public likes to eat and sleep in dirty and unsanitary places. The situation probably is similar to the case of the grizzly bears at West Yellowstone, Montana. Each night dur-

SOME OF THE WEAR
AND TEAR OF RECREATION

Figure 3. — Storm Mountain
picnic area near Salt Lake City.

Figure 4. — Spruces picnic area
also near Salt Lake City.

Photos: Stewart Ross Tocher



ing the vacation season hundreds of people drive to the city garbage dump to see somewhat debauched bears paw through tin cans and paper in search of "tidbits." These people are willing to put up with unpleasant surroundings for the thrill of seeing dangerous wild animals in a more or less native habitat. This does not mean that they would not have had greater pleasure seeing these bears in a wilder setting without the smell of rotten vegetables. By the same token many people patronize worn camp and picnic areas to get away from the summer heat, to be near a boating lake or fishing stream or for some other reason although they would prefer more idyllic campsites.

Recreation technicians say that deteriorated forest camps are not inevitable in most cases if the American people are willing to pay the cost of proper development, maintenance, and control. The deciding factor, therefore, is how far we can afford to go. However, this economic evaluation cannot be made until we get a better idea of what needs to be done and what it will cost.

One fact needing no further proof is that artificial means will be necessary to maintain the natural beauty of all but the most lightly used camping spots. Some of the desirable measures go far beyond the usual concept of what is needed.

Water would do more than anything else for most campgrounds. For this reason the installation of sprinkling systems, revolting though the thought may be, would be desirable in many places. Occasional watering during the summer months would increase the lushness and impact resistance of the vegetation. It would make it possible to establish and hold a grass cover in many areas where trampling is not excessive. Sprinkling systems operating in the Guinavah Picnic Area and elsewhere on the Cache National Forest provide a fine example of what can be accomplished by watering.

Restoring and maintaining picnic and camping areas will require a broad action program beyond watering. Planting of shrubs will be necessary to provide screening between camping and picnic units, help channel traffic, protect the bases of trees, and provide ground cover. Some testing will be necessary to find additional species of shrubs that will thrive in a broad range of climatic conditions. Tree planting is badly needed in some areas to fill openings and provide replacements for older trees as they die out. Fertilizing should be considered as a means of accelerating the growth of planted shrubs and trees. Because some of the planting materials best suited for this particular job will not be generally available, it may be necessary to establish regional nurseries to produce the needed stock.

Camp and picnic areas may be divided into two parts; the part people occupy and the part that they look at. One big problem is how to channel traffic to prevent unnecessary trampling of grass, trees, and shrubs.

The problem of controlling dust, dirt, and wear differs from place to place depending upon soil and amount of use. In a few places, nothing needs to be done. At most locations roads and paths will have to be improved. Gravel will suffice on some, but in some cases hardtopping will be necessary. The area around tables and fireplaces presents a stickier problem and one that requires considerable thought. In certain circumstances it may be possible to maintain a pretty good grass cover close to tables by watering. Elsewhere a sawdust mulch may do the job. However, neither of these alternatives will work where traffic is heavy. Here it may be necessary to lay an asphalt "pallet" around the table and fireplace. At least some such pallets laid in the past have been unsightly and unsatisfactory, probably because they have been put on top of the ground rather than set in. In any case, a big problem is to find suitable surfacing for the pounded area around tables and fireplaces in heavily used camp and picnic grounds. Something also needs to be done about the "dust bowl" where one is supposed to pitch a tent and make a bed.

The whole problem of campground and picnic area development needs careful study not so much to find sturdier tables or fireplaces the muscle-bound picnicker cannot move, but to plan a strategy for keeping people on paths, pallets, and other areas designed to stand trampling, and off tree roots, and out of the bushes. This will involve not only establishing well defined paths but of inducing people to stay on them with strategically located shrubbery and other means. A big step in this direction has been accomplished in many camp and picnic grounds by constructing rock and log barriers to limit the movement of cars. In areas like Red Springs Campground on the Ashley National Forest and East Fork Campground on the Wasatch National Forest, vegetation formerly beaten down by cars is staging a comeback now that barriers have been erected.

The "landscaping" needs of properly designed camping and picnicking areas cannot be accomplished overnight. Development of such areas probably should be started a few years, and in some instances a number of years, ahead of their actual use. Sprinkling systems can be installed and watering begun. The necessary planting should be done and the planted stock given a chance to become well established before tables, fireplaces, signs, and latrines are installed and any use is permitted.

An outstanding example of the need for advance development is Pelican Point at Fish Lake on the Fishlake National Forest. It is only a matter of time before more camping space will be needed on this lake, and Pelican Point is an ideal place for such a camp except for the lack of trees. The longer the planting of needed trees and shrubs can precede the use of this area as a campsite, the more attractive and desirable it will be and the more able to hold up when the gates are opened to users.

The benefits of pre-use site preparation are obvious. Nevertheless, the pressure for new and enlarged picnic and camping facilities seems to require immediate action. Forest camps are often laid out and developed in a single season. In one case the camp sign was set up along the highway before the tables, fireplaces, and latrines had been installed. The dinner bell, figuratively, was rung before the table had been set.

* * *

Efforts to do a better job of developing and managing camp and picnic areas will be futile in these regions unless there is some control of use. There is a limit to the amount of traffic any piece of real estate can stand. The limits differ greatly from place to place depending upon soil, climate, and the care given, but there is nevertheless a limit.

Unfortunately, this limit is frequently exceeded on many camping and picnic areas, especially on peak days of the year such as the 4th of July, and it is chronically exceeded on the most popular ones. The campgrounds at Redfish Lake on the Sawtooth National Forest illustrate the problem at its worst. These campsites were built to accommodate about 300 persons at one time, yet an actual count on July 4, 1961, revealed that 2,500 people were jammed into this area, Coney Island style. This comparison may not show the full seriousness of the problem because there may be too many camping units per acre at Redfish Lake considering the impacts of normal use. Even if user impacts were reduced by eliminating some of the present camp spots, and by building more campgrounds elsewhere on the lake, the aesthetic impact might still remain. How many more than 300 people can be crowded around Redfish Lake before their collective presence tends to substantially reduce the level of individual enjoyment?

Hand in hand with intensified campground management techniques must be developed to keep visitor loads within the capacity of established units and established units within the capacity of areas to provide enjoyment.

It may also be necessary to reverse the current trend and reduce the number of picnic and camping units per acre in many camps. There is reason to wonder, for ex-

ample, if site damage in Mirror Lake Camp on the Wasatch National Forest can be repaired without reducing the number of units in the area. It may be possible to relieve the peak flow problem with an approach tried in California where overflow camps have been established next to regular ones. They have minimum facilities and are opened only during periods of high visitor load.

No matter what is done along this line, ways must be found to keep more people from crowding into any area than can be properly accommodated without sacrificing recreational values.

Problems of sanitation

are mounting steadily As many as 86 million visitor days may be spent picnicking and camping on national forests of the Northern and Intermountain Regions by the year 2000. This raises some horrible prospects so far as sanitation is concerned. Garbage collection and latrine maintenance has already become a big job and it will become bigger. Some ranger districts already operate municipal-type garbage trucks. By the year 2000 the annual policing and maintenance job on the anticipated 78,000 camping and picnic units will probably cost more than \$5½ million. National forest administrators are not only worrying about the collection job, but also about what they will do with the increasing pile of debris. There has been some talk of need for incinerators.

A lesser aspect of the sanitation situation that probably will need more attention in years to come relates to the disposal of wash water presently tossed with a wide sweep into the bushes. In heavily used camps this may create minor health hazards, but in the long run the pile up of grease and soaps may be more objectionable from an aesthetic standpoint. It will also be hard on vegetation. This suggests that dishwater sumps may be desirable in some places.

Our wilderness is

frayed in spots too The word "virgin" appears to be a relative term when used to describe forest land but, elastic though the word is, it can hardly be stretched to cover certain situations in the so-called wilderness. Probably 99.99 percent of the land in the Bob Marshall, Sawtooth, Uinta, and other wilderness and primitive areas is completely unspoiled. However, a tiny fraction is as beaten and abused as the most overpopulated picnic area—so much so as to take the edge off the wilderness experience. This mutilated fraction lies in the large camps used by hunters in the fall and by trail-riding groups in the summer. Some camps have had half a century of use and show it.

A composite picture of the most abused campgrounds is hard to forget. As we ride into them, our first sight is likely to be the weathered remains of last year's tent frames. A few plants struggle to survive in a bare area that has been torn and churned by horses hitched to trees. These trees, more than likely lodgepole pine, appear to be sitting on top of the ground because so much soil has blown or washed away from their roots. Every step our own horses take throws up a small cloud of dust. On the far side of camp the garbage dump—100 feet or less from the kitchen—is marked by a rusty old stove and a wide assortment of piled up cans and bottles.

The dump apparently hasn't been convenient for everybody because tiny trout swim through the neck of a broken gallon jug in the creek. A pot with a bullet hole in it lies half hidden along the water's edge. Here and there in the brush are caches of rusty tin cans that once held syrup, beans, fruit, and other food.

It is customary to blame the scattered tin cans on bears that specialize in digging into garbage pits. But it is obvious that they have had human help. For one thing many of the so-called "pits" aren't more than a foot deep.

If we wander out to where the horses graze after they have been released from the central hitching-eating-sleeping-storage area, we may find that other caravans have pass-



Photo: Don Tavenner

Figure 5. — This photo was taken in the bedding and eating area of the Brushy Park Camp in the Bob Marshall Wilderness Area. Uncontrolled hitching of horses not only causes the heavy wear indicated by the exposed roots; it also creates a shabby, dusty, unwilderness look.

Figure 6. — A cache near
a wilderness area camp.

Photo: Don Tavenner



Figure 7. — Not in a
wilderness area, but 5 miles
from the nearest road. This
is one of a number of gar-
bage piles around a beau-
tiful lake.

Photo: Roscoe B. Herrington

ed this way in recent weeks not leaving much to nourish our animals. Someone with a little better understanding of ecology may conclude that the vegetation is changing for the worse because of overgrazing. The original plants are being replaced by species better able to survive under heavy cropping.

This description is neither facetious nor overdrawn. It describes a real recreation headache plaguing the national forest administrator. This headache actually consists of three related problems that we may consider separately: campground wear, littering, and overgrazing.

* * *

Campground wear appears to be the easiest of the three problems to solve. At least it appears that much damage could be eliminated by better organized camps. Horses should be hitched in a single place away from the human bedding and eating area. One fidgety horse with metal shoes can do many times the damage to ground cover that a person can. Such traffic control would require the cooperation of the people who use the area, a pole fence here and there, and a hitching rack some distance away from the central camp.

* * *

The litter problem has many shades and aspects. Most people are probably reasonably neat and conscientious. However, enough are careless and thoughtless to require a militant antilitter program if the backwoods are to be cleaned up and kept clean. Moreover, there is a need to set up procedures and performance standards so campers will know precisely what is expected of them. In some situations will it be satisfactory to dig really deep garbage pits well away from the campsites and back from the main trails? Where garbage pits are not feasible or desirable (and that may be most places) should we plan to burn everything or should tin cans be flattened and carried out? E. J. Callantine, ranger on the Lewis and Clark National Forest, has suggested that a discreetly located incinerator might be provided for garbage disposal in some situations. In any case, the increasing number of wilderness visitors makes it quite unacceptable to toss empty bean cans into the bushes.

Apparently one big obstacle to the idea of providing formalized toilet facilities in main wilderness area campgrounds is a mental block to man-made structures in such places. Here again, however, there appears little choice when we balance the white flags of toilet paper scattered around the camp and the possibility of stream pollution against a few inconspicuous outhouses. These would be inconvenient to maintain, but this is part of the price of public use of back country.

* * *

Local overgrazing is by far the most troublesome aspect of wilderness use because there is no easy answer and because some "solutions" are likely to be controversial.

Horses are a necessary part of trail travel since few people are rugged or intrepid enough to tackle the larger wilderness areas with a backpack. Nevertheless, horses are hard on forage as well as on trails and campgrounds. A large hunting or trailriding group planning to stay out for a week requires about 2.5 horses for each "dude" on the trip. It is not surprising, therefore, that saddle and pack horses do a pretty good job of consuming all edible vegetation within easy range of overnight stops.

What to do about this situation has been the topic of many campfire arguments, but the time is rapidly approaching when some hard decisions will have to be made. There may be some chance to relieve the situation by developing more trails. Additional trails are undoubtedly needed to provide a wider enjoyment of the wilderness, but unfortunately meadows where horses can graze in high mountain areas are few and far between and most of them are already tapped by existing trails. There may be an oppor-



Photo: Stewart Ross Tocher

Figure 8. — In the minds of packers and many wilderness lovers the trail scooter is an instrument of the devil. It is "outlawed" in wilderness areas. Nevertheless the scooter is an efficient means of trail transportation, and doesn't eat grass. Regulation of scooter use in the interest of recreation values will continue to be a difficult problem.

tunity to increase forage production on a few flats, such as those in the South Fork drainage of the Flathead River in Montana (Bob Marshall Wilderness Area), by using mountain streams for irrigation and perhaps by fertilizing. But again, this is only a partial answer.

Sooner or later the choice will narrow to either reducing the number of pack and saddle animals allowed in the wilderness (except when they can go in and out in the same day) or to requiring that hay and concentrates be packed in. The day when all pack strings can live off the land is passing. This raises a nice problem in logistics, for it is all one horse can do to carry the hay he will eat in a week. However, the answer in some instances might be to airlift hay into central areas, and to store it under western-style hay sheds. Bringing hay into the wilderness raises other problems. Steps should be taken, for example, to avoid transporting cheap hay laden with weed seeds. Canada thistle is already widely scattered, but it would be unfortunate if such plant pests as leafy spurge, whitetop, Russian knapweed, and goatweed were allowed to become widespread in the back country.

Management of wilderness both for its own protection and the widespread enjoyment of people may require that horses be kept out of some areas altogether.

The assistance and

cooperation of the

American people

are needed

Except for the few who find an emotional outlet in vandalism, people are more thoughtless than malicious. A society dependent upon sewers and garbagemen to carry away its offal and debris is not schooled in the ecological responsibilities of outdoor living. The problem is typified by the fellow who sits beside a sparkling stream extolling the beauties of nature while he tosses chewed-up orange pulp into the water where others will drink.

National forests have a particular need for public help and cooperation. Primarily this is because the national forest area is so large and scattered that controls are difficult. It goes beyond that, however. On these public forests we are trying to provide an opportunity for people to get out and enjoy nature with a minimum of supervision. For this reason, the extent of the national forest success in recreation management will depend a lot on the cooperation it gets. Nevertheless, stronger policing authority and additional laws to support that authority are required.

Commercial packers are one of the best sources of help. Some packers are already waging their own campaigns against tin cans, gum wrappers and other debris and are doing all they can to maintain the pristine quality of the wilderness. Similar support from the rest would go far toward solving wilderness management problems. The task of getting support from the general public is tougher, but the success of fire prevention campaigns indicates that much could be done. The importance of "scope of understanding" was illustrated by a situation at Fish Lake on the Ashley National Forest. A group of boys who stayed there carefully manicured their campsite and mixed dirt with the coals of their campfire in proper Boy Scout fashion before leaving. However, they apparently had not been completely enlightened because a ring of trees around the spot had been "beavered" down or badly scarred with hatchets.

Ivan H. Sims has suggested that an educational program could be built around the fact that the frontiersmen most of us would like to emulate never left a dirty camp. They obliterated as many signs of occupancy as possible for oftentimes their lives depended upon doing this. If that idea could be woven into national thought patterns, much good would result.

FINDING THE PLACE OF THESE NATIONAL FORESTS IN AMERICAN RECREATION AND THE PLACE OF RECREATION IN THE NATIONAL FORESTS

National forests have been available to the hunter, hiker, and others ever since they were established years ago. Nevertheless, the growth of recreation use, plus current interest in developing the recreational potential of these forests, creates a fairly new problem of orientation. We have to describe and evaluate the resource better than has been done so far. Beyond that we must identify and understand the features that give the recreation opportunity on these lands a character all its own. If these things can be done, national forest recreation will continue to have a unique and distinctive flavor.

To describe this opportunity it is necessary to consider the size and distribution of the national forests and grasslands. The 38 in these two Regions include a total of 56,757,907 acres of Federal land within their boundaries. This is one-fifth of the total land area in the two regions, and a much higher percentage of the mountain country where most recreation traffic occurs. The size of the national forest playground may be judged from the fact that the total acreage of wilderness, wild, and primitive areas is about 30 percent larger than the acreage in national parks, national monuments, and national recreation areas in these regions.

Acres alone do not tell the story. For the most part, these national forests are well distributed and therefore readily accessible to many people (fig. 1). We estimate that 95 percent of the population in these regions lives within 50 miles of national forest land, and 79 percent lives within 25

miles. Considering their total size and distribution, it is not surprising that national forests provide the lion's share of the nonsightseeing forms of outdoor recreation. In Idaho, Montana, Nevada, and Utah, 56 percent of the deer and elk harvested by hunters were taken within national forests. They probably don't provide most of the fishing because many of the bigger streams lie outside their boundaries. However, high mountain lakes and remote streams with their big fish are largely within the national forests. Nineteen of the 22 principal ski slopes in the Northern Intermountain Regions are either partly or entirely on national forest land, and at latest count there were 994 picnic and campgrounds on these forests.

These national forests, from the Colville to the Toiyabe, contain country that is unusual, beautiful, and spectacular. A list of their outstanding assets would include such places as the new Earthquake Lake on the Madison River, the magnificent Chinese Wall in the Bob Marshall Wilderness Area, and the jagged and beautiful Sawtooth range in Idaho. These scenic and geological highlights are, in a sense, the frosting on the cake. Nevertheless, the hard core of the recreational opportunity on national forests is the broad expanse of out-of-doors they provide for dispersed recreation of many kinds. They offer elbow-room in beautiful surroundings for relaxing the tensions of a high-octane society.

The challenge to the Forest Service is to continue to provide unspoiled elbow-room as the number of recreationists mounts. If we merely transfer downtown traffic jams to forest highways, that challenge will not have been met.

NORTHERN AND INTERMOUNTAIN REGIONS	
	Acres
NATIONAL FORESTS	56,757,907
Wilderness, wild, and primitive areas on the national forests.....	6,228,198
NATIONAL PARKS, MONUMENTS, ETC.....	4,806,733
STATE PARKS	107,354



Photo: U.S.F.S.

BASIC ATTRACTIONS

Figures 9 and 10. — Insofar as numbers of people are concerned, two of the biggest recreation uses of the national forests are camping and picnicking. These people come to hike, fish, hunt, boat, swim, look at scenery, or just relax.

Photo: Stewart Ross Tocher



BASIC ATTRACTION

Figure 11. — The biggest offering of the national forests to the vacationer is out-of-doors.

Photo: Stewart Ross Tocher



BASIC ATTRACTION

Figure 12. — Skiing is easily the king of the winter sports. Most of the best slopes are on national forests.

Photo: Tom Reynolds



Figure 13. — For those who prefer greater privacy and are willing to make the effort, the back country, both in and out of the wilderness areas, provides a more primitive vacation opportunity. Some will walk, others will ride. All will have something to remember.

Photo: Tom Reynolds





Photo: Stewart Ross Tocher

THE FROSTING

Figure 14. — Little Redfish Lake in the Sawtooth National Forest. The scenic splendor of the Sawtooth Mountains makes a perfect backdrop for recreation use. The Sawtooth Valley is one of the superlatives in national forest recreational opportunity.



Photo: U.S.F.S.

THE FROSTING

Figure 15. — The Chinese Wall. This thousand-foot high cliff extends for miles along the Continental Divide in Montana. It is the product of millions of years of land shifts, water erosion, and glaciation. Today, visitors to the 950,000-acre Bob Marshall Wilderness Area can watch the mountain goats do the tightrope act here that they have been practicing for centuries.



Photos: Stewart Ross Tocher

THE FROSTING

Figures 16 and 17. — The national forests are heavily sprinkled with points of special beauty and interest such as the Wind Cave, above, on the Cache National Forest; and Earthquake Lake on the Gallatin National Forest, formed by the collapse of a mountain in 1959.



Photo: U.S.F.S.

THE FROSTING

Figures 18 and 19. — The superlatives on the National Forests include many spots of geologic and archeologic interest besides Earthquake Lake shown on the preceding page. For example, there are the cliff dwellings of the prehistoric Anasazi Indians in Hammond Canyon located in the Manti-LaSal National Forest. Hammond Canyon itself is typical of the spectacular scenery of southeastern Utah. Its cliffs and steeples are carved from multihued Triassic and Jurassic sandstone.

Photos: Craig Rupp



**National forest recreation
should be nationally
oriented**

The famous vacation trip of Sir William Drummond Stewart from Independence, Missouri, to the Wind River Mountains in Wyoming in 1843 has been cited as the beginning of national use of the Mountain States forests for recreation. (Drummond took along 20 or so friends and an army of servants and horses.) However, while forest recreation may have started with this early trip, the national forests of the Mountain States are still a long way from being fully recognized and developed as a national playground. In this respect they have lagged far behind the national parks, which are well known all over the United States and which figure heavily in the vacation plans of families from coast to coast.

This does not mean that people from other places haven't visited national forests to enjoy them. On some occasions, more California cars than native ones can be counted in Utah and Idaho campgrounds. Some of the more atavistic backpackers in wilderness areas are from New York City. Nevertheless, national forests can hardly be mentioned in the same breath as national parks when it comes to out-of-region patronage. National forest recreational development has largely been locally oriented. It has been done chiefly on a piecemeal basis without particular consideration of how well the needs of families from New York or Iowa are being met. It is safe to say, therefore, that the country-wide recreation potential of the national forests has barely been scratched.

What and how much needs to be done to get broader patronage of the national forests is a moot point at this stage. The whole question requires a lot of imaginative thought and planning before it can be fully answered. However, the problem of camping facilities illustrates the situation. Almost every grade school child knows there are a lot of national forests in the West; many families have looked longingly at brochures describing "Your National Forests." Actually, though, long-distance use has been discouraged by the fact that most out-of-state people have found national forest camping a "hunt-and-peck" proposition. They haven't known where to go or what they would find when they got there. The plaintive and persistent cry of many camper tourists struggling to take advantage of their national forests has been, "Where do we go from here?" Each year many start out, literally groping their way from one place to the next, trading information about camping spots and "buttonholing" rangers to ask where the nearest campground is "out that way."

Steps have been taken to relieve this problem by issuing brochures listing and describing campgrounds. However, there is reason to believe more is needed than that. Cross-country tourists present a considerably different problem from the local camper. In strange country far from home, they need guidance and probably require conveniences, such as showers, not essential to local campers. Most national forest campgrounds probably are not particularly suited for cross-country campers. No network of camps has been set up with the needs of these people in mind. The problem of what kind of a setup would encourage greater nationwide use of these forests is a subject in itself. At this stage, we can only raise the question as to whether most existing national forest camping areas are particularly suited for such use.

The one thing that sets the western national forests apart from a playground standpoint is that they are well scattered. They are readily accessible to most of the West. Moreover, the 105 national forests and grasslands in the 11 western states represent a vast network of vacation opportunities for the family seeing America from a house trailer or a station wagon full of kids and camping equipment. The map on the following page shows the location of the western national forests and how well they fill in the country between the national parks.

THE WESTERN NATIONAL FORESTS AND NATIONAL GRASSLANDS
PROVIDE AN IDEAL OPPORTUNITY FOR A CAMPGROUND NETWORK

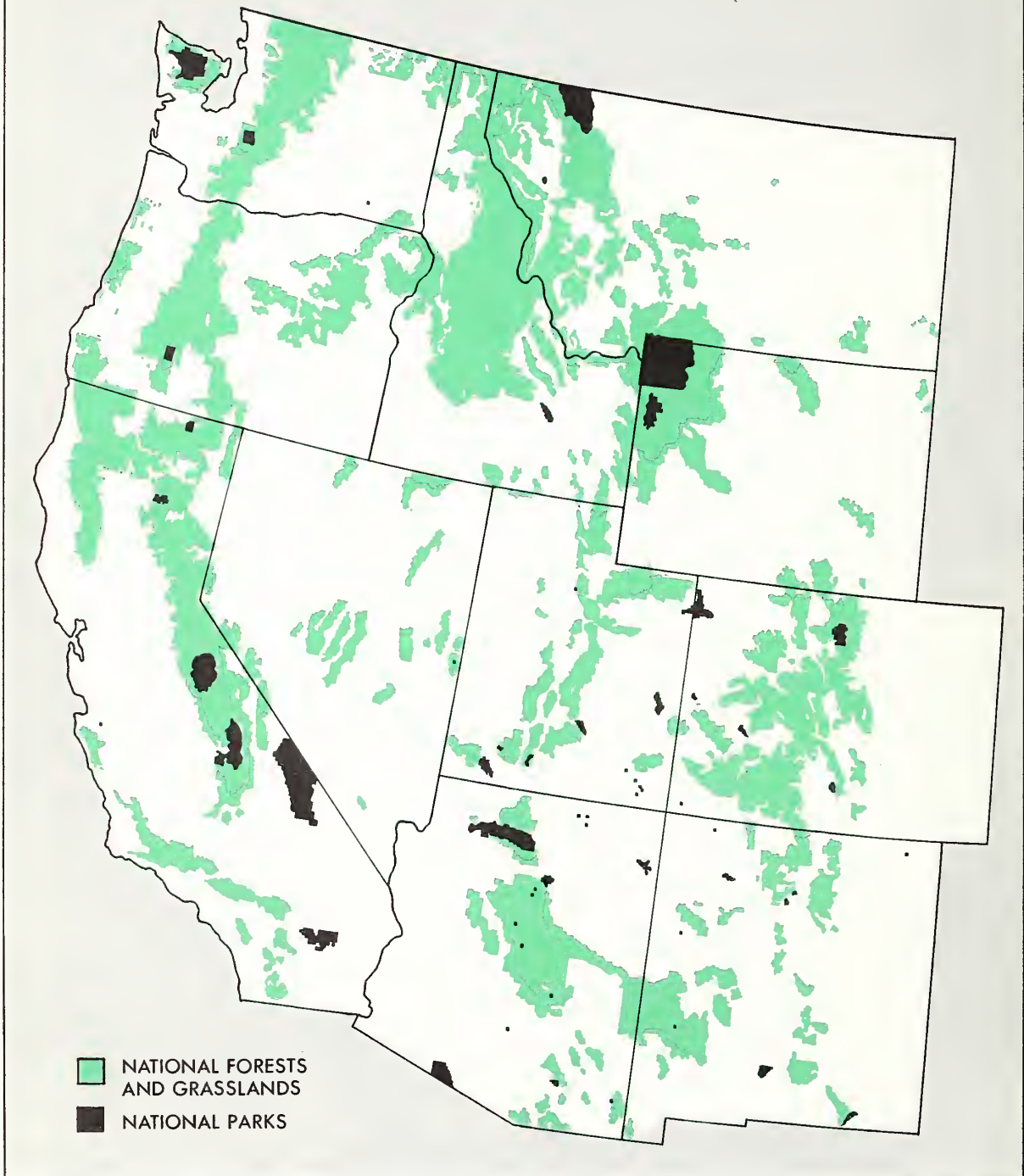


Figure 20.

All this suggests that although the national forests have a prime responsibility for the "elbow-room" type of outdoor recreation, they could also play a larger role in providing the more domesticated kind of camping sought by that group loosely classified as "tourists." The national parks are already bulging with vacation travelers, and park officials are deeply concerned about how they can handle greater floods of visitors in the years ahead.

For these reasons, serious thought should be given to the possibility of developing a camping network in the western national forests specially geared to the needs of long distance vacationers. Needless to say, each campground in such a network should be located in relation to special recreational opportunities. Camps for travelers looking only for a place to stop overnight may not be a public responsibility.

A national forest camping network, arranged and tailored with the migrant camper in mind, would bring national forest vacations within reach of many more people.

**National forest efforts
should be coordinated
with other outdoor
recreation**

The growing number of sun-loving, wide-roaming Americans poses a real challenge to all public agencies connected with outdoor recreation. It is a challenge that no agency can meet alone and one that can be met effectively only if there is expanded coordination and cooperation.

At least one shrewd observer, conscious of the logistics of outdoor recreation, has commented that one of the best things that has happened is the growing number of community and neighborhood swimming pools. His hope is that more adequate local recreation facilities will keep many people home who would otherwise travel, thus relieving what might become an intolerable pressure on the national forests and state and national parks. It is hard to know how much of a safety valve such local developments can be. The idea, nevertheless, does point up the fact that outdoor recreation is not something 10, 50, or 500 miles from home, but begins out on the patio.

This, in turn, suggests that local communities have a greater responsibility in outdoor recreation than most have recognized; that much joint area planning by national forest, state, and community administrators is needed; and that in default of local responsibility related to recreation, the national forest administrator must set some limits as to how far he will go in taking up the slack.

This whole problem is best illustrated by a situation in the Wasatch Mountains of Utah. Most people in the State live in a narrow strip along the base of this mountain range. During the summer they flock out of Salt Lake City, Ogden, and other towns into the mountain canyons. Since World War II, use has become so heavy that the picnic areas in these canyons have been overloaded. Several towns and counties have pitched in and helped by paving picnic ground roads, collecting garbage, and maintaining certain facilities. The newly created Wasatch Mountain State Park near Midway, Utah, should help the situation. It is apparent, though, that more needs to be done. A new look at the area's overall recreation problem is badly needed not only to define the job ahead but to determine an equitable division of labor and responsibility among local, state, and Federal agencies. To what extent, for example, does the pressure on Wasatch Front campgrounds reflect inadequacies of municipal park systems? Can the Wasatch Front National Forests continue to handle the recreation load they have in the past?

Group areas have been a prominent part of the picnic facilities on the Wasatch, Cache, and Uinta National Forests. They have been heavily used for family reunions, "beer busts," and company outings. Since there isn't enough room to go around, some thought has been given to converting group facilities to individual family units. There is reason to wonder if large gatherings that cause heavy wear and tear on the site have any place in national forests. Why shouldn't city parks provide facilities for large groups?

Whatever the Forest Service does in the recreation field should be coordinated with National Park Service efforts. For example, a national forest serves a substantially different purpose than a national park. By itself, each is lacking; together they provide an unparalleled recreation opportunity.

At this stage, the big question is how the programs of the two agencies can be more tightly interlaced. A commonly mentioned example relates to campground facilities. One worry of the Park Service is how to provide sleeping space for all who stop overnight. Forest Service planners recognize their responsibility to help with this so-called "bedroom problem" by providing campgrounds near the parks.

There are, no doubt, many more opportunities for cooperation and coordination.

Recreation development on

**the national forests is a
large and complex job**

Camp and picnic areas have been the squeaking wheels of outdoor recreation, and have tended to dominate national forest recreation planning and development. However, if one of the purposes of the Forest Service is to develop a wildland playground so more people can enjoy it, the job is considerably greater than merely providing places where people can eat and sleep at low cost.

The task of handling thousands of square miles of land so as to enhance recreation value and still permit other uses is so complex that no one yet really understands all its ramifications. The breadth and depth of the problem are indicated by the following questions for which we do not yet have the answers:

- What are the recreational assets of these national forests, and how great a recreational opportunity do they provide?

It isn't enough to be able to tick off a list of vacation activities on the national forests. Before there can be much clear-cut planning, it will be necessary to know the extent of the various recreational opportunities. It may be possible to express some resources, such as big game, in quantitative terms. Perhaps other resources, such as scenery, can be described only in general terms.

- How do we handle a fisheries resource that is extensive but lacks the capacity to hold up under heavy pressure?

The fish themselves are the responsibility of State Fish and Game Departments, but the lakes and streams on the national forests, their accessibility, and the management of the land around them are the responsibility of the Forest Service. State Fish and Game Departments and the Forest Service, therefore, share the responsibility of providing for both the so-called "running board" fisherman unwilling to go far from his car and the more energetic angler willing to walk some distance for better fishing. An all-important decision to be made, therefore, is which back country lakes and streams are to have roads into them so that more people can enjoy them, and which are to be kept less accessible so fewer people can get more enjoyment. Rock Creek, near Missoula and Phillipsburg, Montana, typifies one problem facing State Fish and Game Departments and the national forests. This 50-mile long creek is one of the better fishing streams in the United States. It is naturally productive, and the road paralleling it is just rough enough to discourage many would-be fishermen. What can be done to maintain this as a quality fishing stream after a better road is built?

- How can we continue to provide a camping opportunity that is a delightful experience in its own right?

Many feel that one of the most important contributions national forests could make to human happiness is to provide a full range of camping opportunities from larger developed campgrounds to more remote unimproved spots for those seeking solitude. Em-

phasis should be placed on providing the kind of surroundings where camping itself is fun, rather than something that is put up with for the sake of being outdoors.

- Where should camp and picnic areas be located to do the most good?

Camp and picnic areas, for the most part, should be jumping-off points for other types of recreation. In the case of some lakes, the matter of location of camps presents few difficulties. However, where should the camps be established to best serve the hiker, the fisherman, and the family out to see the country?

- How do you tell the fascinating story of this mountain country — about the frontiersmen and loggers who walked across the pages of its history, about the geology that shaped its features, and other things of interest?

The National Park Service uses lectures, tours, signs, and displays to tell visitors about the interesting features of its areas. National forest type recreation requires less of this, but nevertheless, there is opportunity for more interpretive work. The question to be answered is: How far should we go in this direction, and what needs to be done?

- What can be done to establish and maintain the kind of private concessions required to enhance the recreation opportunity?

Resort facilities are required in many places to serve the public. Forest Service experience in this field has been both happy and sad. Some resorts on national forests are fulfilling their purpose; others are not. The worst are shabby and disreputable. Such resorts probably are discouraging rather than encouraging recreation use. This raises several questions: Why aren't these resorts more desirable? What can be done to improve the situation? How can resort establishment and development be better fitted into overall recreation programs to avoid such marginal situations?

- What place should summer homes have in future planning of the Forest Service?

In the early years of the national forests many waterfront sites were leased for summer homes, because this was the principal recreation demand on such areas. Subsequent demands for public access to shorelines have made it necessary to terminate summer home leases. This has been an understandably difficult and unpleasant task. The question of how much room there will be on the national forests for summer homes in the future is, therefore, very important.

* * *

The recreation management job of the Forest Service consists of molding an outstanding collection of real estate into a distinctive recreation opportunity. It will not be an easy task because the multiple-use concept that makes the whole national forest system available for recreation creates the difficult problem of integrating this use with others. Providing "aloneness" for an increasing number of people is almost a self-defeating operation and doesn't make the job any easier. Nor is the situation improved by the fact that an increasing proportion of the people who seek nature know little about the out-of-doors or how to go about enjoying it. Solving these problems calls for imaginative planning, new concepts, and new approaches.

Just what these new concepts and new approaches may involve is difficult to say. However, the tent cabins in Grand Teton National Park represent one example of the kind of thinking needed (fig. 21). Roscoe B. Herrington's micro-wilderness² is another. Herrington and others have proposed that much of the high mountain country be broken into pint-size primitive units easily traversed on foot.

²The term "micro-wilderness" as used here has no particular relation to the formally reserved wilderness areas. It is primarily a management concept, applicable either to formally established wilderness areas or other high country in national forests.



Photo: Zach Stewart

Figure 21. — Part of the tent village in Grand Teton National Park. This ingenious development by the Grand Teton Lodge Company is one answer to the problem of providing low cost accommodations for seasonal traffic. Besides being clean, comfortable, and attractive, these cabins reduce wear on the surrounding site.

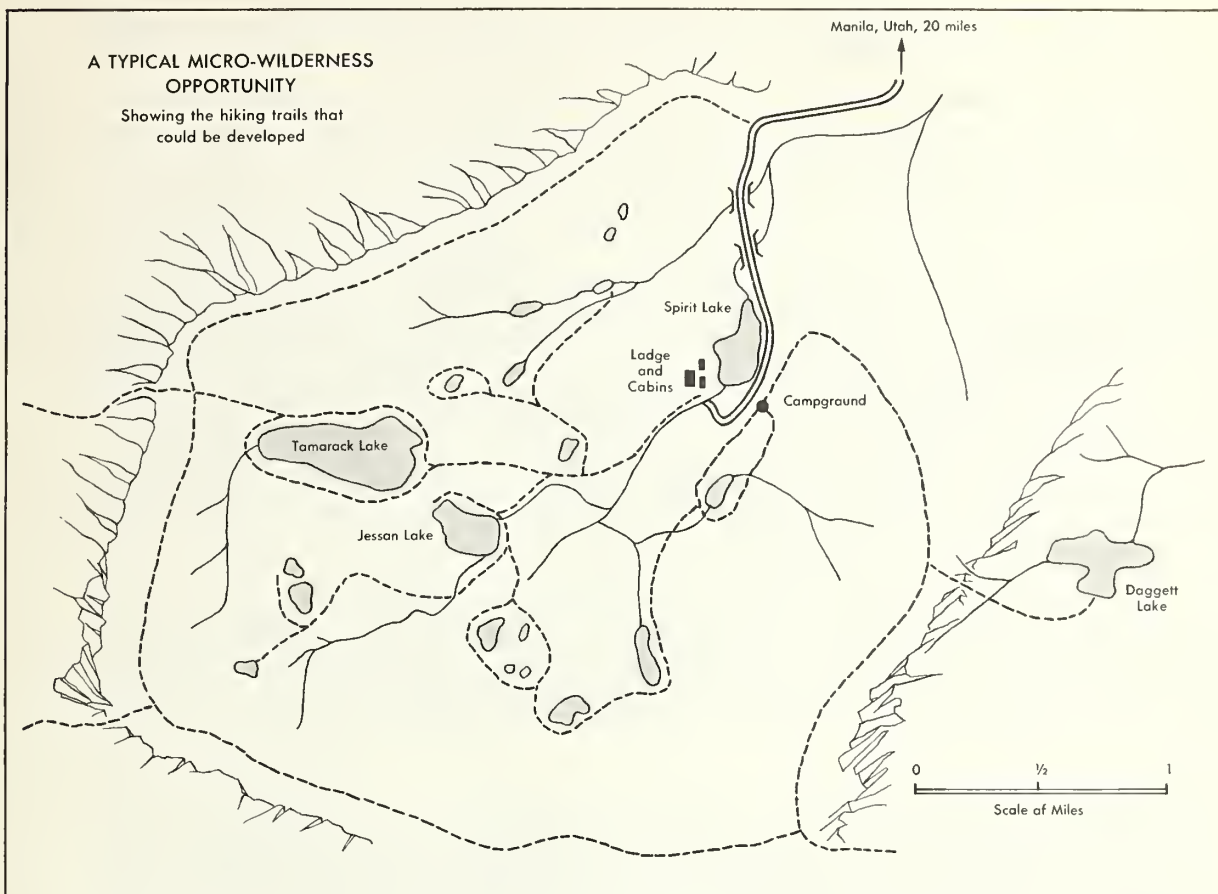


Figure 22. — An example of a "micro-wilderness" opportunity. At present, this area is tapped by road to Spirit Lake and by a trail that connects Spirit Lake with Tamarack, Jesson, and Daggett Lakes. Most people who visit this area stay at Spirit Lake to fish or camp. In a sense, many of these people are in the same situation as the traveler in a strange city who never goes beyond his hotel. He supposes there are interesting things to do and see but doesn't know where to look. Spirit Lake is overfished by people who need something to do. They may suspect that other beautiful lakes are nearby, but are unsure of their ability to find them. An adequate system of well-signed trails, and maps such as the one above would provide many with a more satisfying camping experience and would relieve congestion, campground wear, and fishing pressures at Spirit Lake.

The map in figure 22 shows one potential micro-wilderness in the Ashley National Forest. Of the high mountain lakes shown, only Spirit Lake is accessible by road. It has a resort and campground on its shore. Vacationers not wishing to go further may fish in this lake or otherwise amuse themselves. Those looking for better fishing or more primitive surroundings may walk 1 mile to Jesson Lake, or shorter or longer distances to other lakes. These lakes, nestled in glacial cirques, are very beautiful. Above Tamarack Lake is a high mountain meadow that looks into several year-long snowbanks. Thus, with an hour's walk at the most one can enjoy surroundings just as wild and lovely as those in the center of the 950,000-acre Bob Marshall Wilderness. Many opportunities like this, scattered throughout the two regions, need only adequate jumping-off points, publicity, and well planned trails and signs to bring the wilderness experience to many who otherwise would have no chance to enjoy it. Such situations cannot take the place of the larger and legally established wilderness areas, but they do provide an ideal opportunity for the foot traveler with or without a pack. From such areas, both horses and vehicles probably should be excluded.

The micro-wilderness idea is but one example of the opportunity to develop a series of complete recreation units. This involves selecting the areas of greatest recreation value, establishing resorts and campgrounds from which recreation use can radiate and constructing trails, shelters, and any other facilities required for dispersing recreation use.

Finding the right

**multiple-use compromises
will in some cases be
difficult**

The multiple-use concept is important to recreation because it provides a basis for assuring that other uses will not materially reduce the attractiveness of the country or its utility as a playground. Multiple-use is, however, a two-way street. At present, when interest in recreation is at high tide, there is equal danger that it will encroach unnecessarily upon timber growing and other uses as there is that recreation values will be impaired.

In some cases multiple-use is directly beneficial to recreation. For example, the elk herd in western Montana reportedly is larger than ever before because extensive logging has created a better game habitat. Fishing has been improved in some localities by the construction of reservoirs.

One of the more important conflicts today, so far as recreation is concerned, is between recreational and agricultural demands for water. At China Meadows on the Wasatch National Forest, for example, a proposal has been made to build a low dam for water storage. The water thus impounded would provide additional irrigation for farms, but the meadows would become a mud flat for part of the year, thus eliminating them as a recreational asset. The proposed reservoir on the North Fork of the North Fork Sun River in Montana would put a water barrier between the summer and winter ranges of the Sun River elk herd. On the other hand, overgrazing by saddle and pack stock in wilderness areas and by the over-large northern Yellowstone and Jackson Hole elk herds adds to the problem of watershed protection. In many ways multiple-use conflicts represent the most difficult part of national forest administration. If recreation development is to get fair consideration in decisions and is not to create unreasonable demands itself, we will have to develop a clear sense of purpose in recreation planning.

RECREATION RESEARCH SHOULD BE CAREFULLY FOCUSED

The rising popularity of national forests in these regions as playgrounds has sown a bumper crop of sociologic, economic, biologic, and engineering questions. Such a situation provides a wide-open opportunity for researchers, but it also presents a problem in priorities. Unless "first" questions are answered first, national forest administrators will not get the help they need as fast as they need it.

It is doubtful, for example, if top priority should be given at this time to long-range demand studies. Estimates of total recreation needs in decades to come are certainly less important than a better understanding of how to deal effectively with the erosive force of existing recreational use. We already know that recreation use will probably keep ahead of the Forest Service's best efforts for a long time to come.

The question of what comes next after the trailer house, outboard motorboat, and trail scooter, is likewise provoking. However, it is much less significant than the basic puzzler: How can national forest recreation opportunities be made available to more people while still preserving most of the original attractiveness?

This review of the many-faceted task of national forest recreation development suggests researchers can help most by first tackling three problems: How best to capitalize on the national forest recreational assets; management of recreation pressure points; the extent and character of current recreation use.

What is the nature of the recreation opportunity on the national forests and how can it best be developed?

A study is underway at the Intermountain Forest and Range Experiment Station to develop ways of measuring that illusive thing we call the recreation resource. Initial attention is being directed to the fisheries resource. The objective is to devise ways for expressing the size, location, and quality of the fishing opportunity in a way that will be useful in management planning. Similar study must be given to the problem of describing other recreation resources. Planners can be further assisted by research along four other lines:

- *Studies of development patterns needed to provide the most effective use of national forest recreation attractions.* Such studies would focus on questions like these: What kind of arrangements and facilities both inside and outside national forests would provide the most attraction and greatest benefit to regional recreation visitors? What combination of public and private development will yield the highest benefits? What combination of accessibility and inaccessibility will create the ideal balance for recreation? How far should the Forest Service go in providing interpretive services such as tours, lectures, and signs?
- *Studies of resorts and other concessions on national forests.* Some aspects of development are best handled by private enterprise. A better understanding of the concessionaire and his problems is needed. Why do some succeed while others become marginal economic ventures and a liability so far as the public is concerned? What development patterns would assure a higher degree of success in such operations?
- *Studies of the problems of developing recreation opportunities in a multiple-use setting.* Here the first task is to identify points of harmony and conflict between recreation and other uses. This sets the stage for the toughest recreation questions the researcher faces: What criteria can be used to evaluate recreation in comparison with other uses? How can an agency with multiple-use responsibilities best tackle the recreation job?

- *Studies of the need and opportunities for integrating national forest recreation programs with the efforts of others.* Forest Service planning should be integrated at the one end with the planning of the states, counties, and communities and at the other with the National Park Service. We need to learn how the Forest Service in these regions can team up with other agencies to provide a better recreational program for the American people.

What management measures

will prevent unnecessary wear at the pressure points of recreation?

Deterioration caused by recreational use is an ecological problem. However, ecological studies of the existing situation would only prove the obvious. For that reason research can probably be most productive if it starts with studies of the procedures required to rehabilitate sites and maintain stable conditions. For some time to come studies relating to the management of recreation concentration points should deal with six inter-related subjects:

- Techniques to determine the "people-carrying" capacities of recreation sites.
- The strategy of minimizing wear and tear on camp and picnic areas.
- The selection and testing of shrubs and trees that are suitable for different sites and conditions.
- The adequacy of management alternatives from the standpoint of their effect on the capacity of land to withstand wear and tear.
- The cost of management measures required to deal with various situations.
- New approaches and concepts for handling people who come to the national forests for recreation.

What is the pattern

of present recreation use on national forests?

There is a need to better understand what recreationists are doing on national forests. A better understanding of use patterns requires periodic surveys—a job that probably should be done by the administrator. He requires help, however, in the development of adequate survey techniques.

Beyond that, research scientists should conduct incidental studies of the recreation visitor—his needs, interests, and problems.

* * *

The Forest Service has an exhilarating opportunity to develop a national forest recreation program with a flavor all its own and a special place in the American scene. The researcher likewise has an excellent chance to contribute in this field. His studies on experimental campgrounds and planning units can provide a stronger foundation of knowledge, but beyond that he can play an important part in molding the philosophy and concepts of national forest recreation.



Photo: Stewart Ross Tocher

Figure 23. — Man does not live by bread alone. The everchanging face of nature never ceases to fascinate and beckon him to explore whatever lies just beyond the next bend.

